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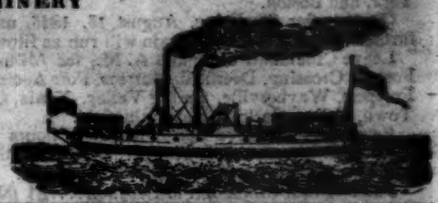
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY AND MINES.



ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS PER ANNUM.

SECOND QUARTO SERIES, VOL. III., No. 24] SATURDAY, JUNE 12, 1847. [WHOLE No. 573, VOL. XX.

AMERICAN RAILROAD JOURNAL.
OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5 00

BOSTON AND PROVIDENCE RAILROAD. Passenger Notice. Summer Arrangement. On and after Monday, Sept. 28, 1846, the Passenger Trains will run as follows:

For New York—Night Line, via Stonington. Leaves Boston every day, but Sunday, at 5 p.m.

Accommodation Trains, leave Boston at 7½ a.m. and 3½ p.m., and Providence at 8 a.m. and 3½ p.m.

Dedham trains, leave Boston at 9 a.m.; 3 p.m., 5½ p.m., and 10½ p.m. Leave Dedham at 8 a.m. and 4½ and 9 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 4·10 p.m. Leave Stoughton at 8 a.m. and 2½ p.m.

All baggage at the risk of the owners thereof.

31 1y W. RAYMOND LEE, *Sup't.*

BRANCH RAILROAD and STAGES connecting with the Boston and Providence Railroad.

Stages connect with the Accommodation trains at the Foxboro' Station, to and from Woonsocket. At the Seekonk Station, to and from Lonsdale, R. I. via Pawtucket. At the Sharon Station, to and from Walpole, Mass. And at Dedham Village Station, to and from Medford, via Medway, Mass. At Providence, to and from Bristol, via Warren, R. I.—Taunton, New Bedford and Fall River cars run in connection with the accommodation trains.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35ly

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

SUMMER ARRANGEMENT, April 1, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 5 P.M.
Leave Great Falls at 6½ A.M.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 6·20 P.M.
Leave Haverhill at 6½ A.M. and 4½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 8½ P.M.
Leave Reading at 6 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, 11½ A.M., 2½, 5½, 7 P.M.
Leave Medford at 6½, 8 A.M., 1½, 4½, 6 P.M.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above $50 in value, and that personal, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every $500 additional value.

1y31 CHAS. MINOT, *Sup't.*

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat.—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J. W. STOWELL, Sup't

NEW YORK AND ERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD.—OPEN TO SPRINGFIELD—Distance 84 miles—

connecting at Xenia and Springfield with Messrs. Neil, Moore, & Co's. daily daylight lines of stages going east and north, to Columbus, Zanesville, Wheeling, Cleveland, and Sandusky City. via Urbana, Bellefontaine, Kenton, and the Mad river and lake Erie railroad, or Columdus, Delaware, and the Mansfield and Sandusky City railroad—forming, by these connections, the cheapest and most expeditious route to Buffalo, Niagara Falls, Rochester, Albany, New York, and Boston.

On and after Thursday, August 13, 1846, until further notice, a Passenger train will run as fllows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Old Town, Yellow Springs, and Springfield.

Returning, will leave Springfield at 4 hours 35 minutes A. M. A line of Hacks runs in connection with the Cars, between Deerfield and Lebanon.

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 8 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

The 1¼ P. M. train from Cincinnati, and the 2 40 P. M. train from Xenia, will be discontinued on and after Monday, the 10th instant.

A freight train will run daily.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Bal-

timore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 26 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 2v19 1y

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Balti-

more and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

CENTRAL RAILROAD—FROM SAVAN-nah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and

Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

NEW YORK & HARLEM RAILROAD CO.—Winter Arrangement.

On and after Monday, November 23, 1846, the cars will run as follows:

Leave 27th street for 42d street, Deaf and Dumb Institute, Yorkville, Harlem Morrianna, and Williams' Bridge, at 7 o'clock a.m. From City Hall for above named places, 2 p.m. [freight train,] 2 30 p.m. 5 p.m. to Morrisiania only.

Leave City Hall for Harlem, Morrisiania, Fordham and Williams' Bridge, at 7 45 a.m., and 10 45 a.m.; 1 15 p.m., 2 p.m. [freight train], 2 30 p.m. and 3 45 p.m.

Leave City Hall for Hunt's Bridge, Bronx, Tuckahoe, Hart's Corners White Plains, Davis' Brook, Unionville and Pleasantville, [Pleasantville 4 miles from Sing Sing,] 7 45 and 10 45 a.m.; 1 15 p.m., 2 p.m. [freight train], and 3 45 p.m.

RETURNING.

Leave Pleasantville, at 8, 10, [freight train], and 11, a.m.; 1 30, and 4, p.m.

Leave White Plains, at 8 12, 10 30, [freight train] and 11 20 a.m.,; 1 50, and 4 20, p.m.

Leave Tuckahoe, 8 35, 10 55, [freight train,] and 11 35, a.m.; 2 05, and 4 35, p.m.

Leave Williams' Bridge at 7 45, 8 50 and 11 50 a.m.; 2 50, 4, and 4 50 p.m.

Leave Morrisiania 8 and 9 05 a.m.; 12 05, 2 35, 4 20, 5 05 and 6 p.m.

Leave Yorkville, at 8 12 a.m.; 4 35 and 6 15 p.m.

SUNDAY ARRANGEMENTS.

Leave City Hall for Pleasantville and intermediate places, at 7 45 a.m.; 1 15 and 3 p.m.

Leave Pleasantville for City Hall, at 8 a.m.; 11, and 3 15 p.m.

Leave City Hall for Williams' Bridge and intermediate places, 10 45 a.m.; 2 30 p.m.

Leave Williams' Bridge for City Hall, at 8 50 and 11 50 a.m.; 1, 3 45 and 4 05 p.m. 1y49

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R. Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12½ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p. m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO OOTHCALOGA, 80 MILES.

This Road in connection with the South Carolina Railroad and

Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothcaloga on the Oostenaula River, in Cass Co., Georgia.

RATES OF FREIGHT.		Between Augusta and Oothcaloga, and Dalton. 250 miles.	Between Charleston, Oothcaloga and Dalton. 388 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 16	$0 26
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 45	0 70
	Cotton, per 100 lbs.....	0 45	0 65
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 00	3 25
	Salt per bushel.....	0 17	
	Salt per Liverpool sack..		95
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 37

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothcaloga.

J. EDGAR THOMSON,
Ch. Eng. and Gen. Agent.
Augusta, Sept. 2d, 1846. *44 1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

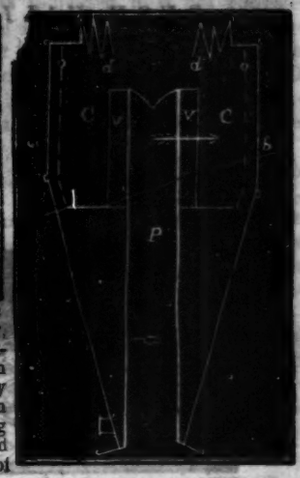
SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.
1y25 JOHN KING, Jr, *Agent.*

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 103 Chestnut street.

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co Boston. ja45

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
a45 Paterson, N. J., or 60 Wall street, N. York.

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

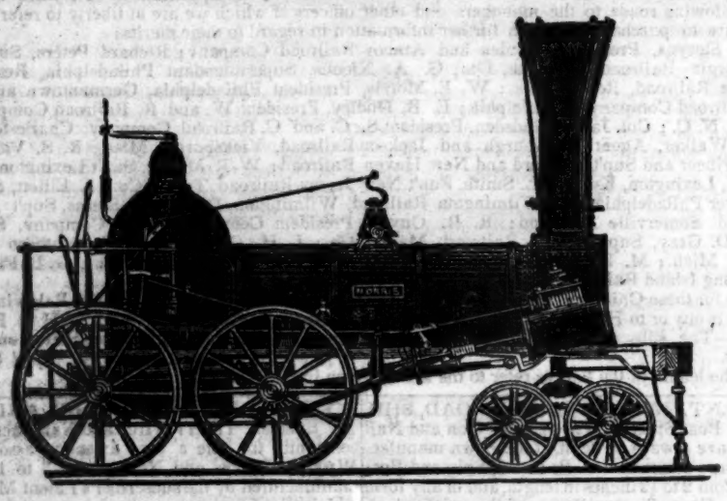
*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.
ja45

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.



MANUFACTURE their Patent 6Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter of	Cylinder,	× 20	inches	Stroke.
"	2,	14	"	"	"	× 24	"	"
"	3,	14½	"	"	"	× 20	"	"
"	4,	12½	"	"	"	× 20	"	"
"	5,	11½	"	"	"	× 20	"	"
"	6,	10½	"	"	"	× 18	"	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire,
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N. E. Screw Co. } Provicence, R. I.
Eagle Screw Co. }
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON
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VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 fe. with lathes, work benches,

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side o Parker st., containiug 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

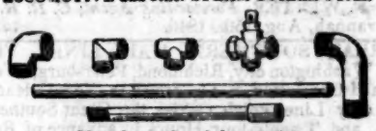
For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



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TO LOCOMOTIVE AND MARINE Engine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

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PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above Pipes, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly *indestructible*. The prices are less than those of iron or lead. We also manufacture Basons and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.

28tf J. BALL & CO.

Delaware and Hudson Canal Company.

Annual Report of the Board of Managers of the Delaware and Hudson Canal Company to the Stockholders, March 30, 1847.

It is with much satisfaction that the Board again meet the Stockholders, under circumstances of continued prosperity on the part of the Company.

The usual statement of the year's business, herewith submitted, shows a net profit of $582,767 27, being a fraction over twenty per cent. on the capital stock paid in.

It will be perceived also, by this statement, that the item of "repairs and superintendance of Canal," in 1846, exceeded the average of former years, by about $30,000.

This was mainly owing to an extraordinary flood at the breaking up of the Delaware River, in the month of March, when the water was higher than during the great flood of 1841, which was so disastrous to the Lehigh and Schuylkill Canals, as well as our own. Against the recurrence of such an event provision has been made, by raising and strengthening our canal banks, etc., so that they are now deemed capable of resisting the action of a similar flood; and the occurence is adverted to, principally to account for the extraordinary canal expenses chargeable to the year.

The quantity of coal brought to market during the year 1846, by this company, was 318,000 tons, which will be considerably increased during the current year.

There is an increased demand for Lackawanna coal, and the market for it is daily expanding; than which, no stronger assurance can be given of the favor in which it is held.

The canal and railroad are both in excellent condition. Thus far the spring floods have done no damage to either.

The railroad has been in operation during most of the winter, and the canal will be opened as soon as the weather will permit.

At the annual meeting of the Stockholders, in March, 1845, an increase of the capital stock of the Company was authorised. This measure was intended to provide,

1st. For an enlargement of the canal, so as to increase the capacity of boats navigating it, and thus reduce the freight which had been previously paid.

2d. For alterations, improvements, and extension of the railroad, so as to increase its capacity and economise on its former mode of working.

3d. For additional mercantile capital, for the prosecution of an enlarged business.

4th. For the redemption of the bank circulation and the stock loaned by the State to the Company, which will become due the 1st of January, 1848, and 1850.

Fifty per cent. upon the new stock having been paid in, it may be satisfactory to the Stockholders to receive some explanation of what has been done in relation to the two first objects.

In regard to the first, (the enlargement of the canal,) the Board beg leave to refer to a document herewith submitted, being an extract from a report on this subject, made to the Board by R. F. Lord, Esq., the engineer in charge of the canal, under whose supervision this important improvement was projected and executed. It will be perceived that it has been effected thus far without interruption to the navigation of the canal, at an expense of $253,363 80

A further expenditure of about $12,000 will complete it.

The benefits, past and prospective, resulting to the Company from this outlay, and the merit of the engineer, to whose care the work was committed, will be fully appreciated on a perusal of the document referred to.

In this connection it may be remarked, that under the supervision of the same officer, the Board has deemed it expedient to commence, and considerable progress has already been made, in the erection of aqueducts across the Lackawaxen and Delaware rivers, near their confluence. These structures, when completed, will prevent the interruption which has frequently occured in the navigation of the canal, in consequence of high water during spring and fall floods. It will shorten the canal about half a mile, and place a portion of it on a higher level, thereby protecting it from inundation, to which it has heretofore been exposed, and from which it has frequently sustained serious injury. In this work there has been expended the sum of . . . . . $23,932.74 and it will require upwards of a year to complete it.

During the same time, and as preparatory to, and rendered necessary by the prospective increase of the Company's business, a new insular dock has been constructing in the stream at Rondout, containing about fourteen acres. It will furnish ample space and facility for reciving and shipping coal to almost any extent, besides making a safe harbor and capacious basin for canal boats, with convenient yards for building and repairing them. There has been expended on it thus far, ... $44,783.15

It is now in condition for use to a great extent, and will be completed in the course of the present year.

In relation to the second object, (alterations, improvements, and extension of the railroad,) the Board would refer in like manner to a report herewith submitted, from James Archbald, Esq., the engineer in charge of the mines and railroad. This great work is the result of his genius and forecast; and, like the enlargement of the canal, has been executed without any interruption to the regular business of the Company. It is now substantially completed, and has cost $328,890.46

On the above objects there has, therefore, been expended the aggregate sum of $650,970.15

To this may be added, for the redemption of bank circulation, additional canal reservoirs, barges, canal boats, new openings in coal mines, railroad cars, and other appliances of the enlarged business for which the Company is preparing, a further expenditure (since the increase of the capital stock) of $171,725.93

making the total sum $822,696.08

In reference either to the foregoing, or to the third and fourth objects for which the capital stock was increased, it is not contemplated to make any further call on the stockholders until it becomes necessary to provide for the redemption of the State stock, $500,000 of which will become due on the 1st of January, 1848; and the balance, $300,000, on the 1st of January, 1850.

The Board scarcely deem it necessary to reiterate their former expressions of confidence in the continuance of prosperity to the Company; the ordeal through which it has passed ought to remove all doubt on that head. It possesses so many elements of success that it is insured by a judicious and energetic use of them. Its progress to its present position, if slow, has been sure and steady, though occasionally varied in aspect by fluctuations in the price of the great staple which is the basis of its business. The depressing influence of this cause has probably been felt in its greatest severity, and its effect was, not to blast, but simply qualify the prosperity of this Company; while kindred institutions, whose uncompromising hostility to each other produced the evil, were, and yet are, receiving no remuneration for their labor and capital. It may reasonably be presumed that ere long the lessons of experience will have their due weight—that self interest will induce the adoption of wiser counsels by the several companies, whose policy seems to be regulated by a struggle for victory and triumph, rather than profit; and, that a consequent advance in the price of coal, will soon afford to all, some return for the capital invested in mining and transferring it to market. When this event occurs, the prosperity of this Company will be greatly enhanced.

By order of the Board,

JOHN WURTS, *President.*

Statement of the Business of the Delaware and Hudson Canal Company, for the year ending March 1, 1847.

To coal on hand March 1, 1846	$35,855 00
" Mining coal	213,564 15
" Railroad transportation and repairs	144,271 85
" Freight of coal to Rondout	288,681 02
" Canal repairs and superintendance	109,878 01
" Labor and expenses at Rondout	29,368 60
" Interest on state stock	38,150 00
" Rents, salaries, current expenses, etc., New York	91,808 55
Balance	589,767 27
	$1,464,344 45
By sales of coal	$1,330,568 22
" Canal and railroad tolls	26,068 65
" Interest received	31,588 58
" Coal on hand	76,119 00
	$1,464,344 45
Balance	$ 589,767 27

ISAAC N. SEYMOUR, *Treasurer.*

NEW YORK, MARCH 1, 1847.

Statement of articles transported on the Delaware and Hudson Canal during the year 1846.

Merchandise	10,083
Plaster	752
Cement	7,849
Tanners' bark	169
Leather	2,168
Stone, brick, and lime	2,038

Millstones	184
Staves, hoop-poles and lath	1,245
Manufactures of wood	1,763
Glass and glassware	771
Charcoal	730
Sundries, posts, rails, pig iron, etc.	480
Tons	28,242
Cords of wood	2,971
Number of shingles, pine	13,900
Do do hemlock	278,900
Ship timber, in cubic feet	48,375
Hardwood lumber, in board measure	3,170,223
Pine do do do	729,465
Hemlock do do do	6,774,724

Statement of tolls received on the Delaware and Hudson Canal and Railroad in each year since the completion of the works:

1830	16,422 44		311,937 59
1831	30,554 64	1839	40,095 26
1832	28,717 51	1840	35,450 46
1833	37,004 58	1841	39,388 19
1834	36,946 07	1842	33,894 93
1835	41,976 82	1843	30,996 53
1836	45,154 73	1844	33,525 61
1837	44,832 42	1845	25,880 92
1838	40,328 38	1846	26,068 65
	$311,937 59		$577,238 14

The following is a statement of the quantity of Anthracite Coal shipped from the three principal mining districts in Pennsylvania, since the commencement of the Coal trade, to January 1st, 1846.

	Schuylkill.	Lehigh.	Lackaw.	Total.	Increase	Decr.
'20	.....	365	.....	365	.....	.....
'21	.....	1,073	.....	1,073	708	.....
'22	.....	2,240	.....	2,240	1,167	.....
'23	.....	5,823	.....	5.823	3,583	.....
'24	.....	9,541	.....	9,541	3,718	.....
'25	6,500	28,393	.....	34,893	25,352	.....
'26	16,767	31,280	.....	48,047	13,154	.....
'27	31,360	32,074	.....	63,430	15,387	.....
'28	47,248	30,232	.....	77,516	14,092	.....
'29	79,973	25,110	7,000	112,083	34,567	.....
'30	89,984	41,750	43,000	174,734	62,651	.....
'31	87,854	40,966	54,000	182,860	8,086	.....
'32	209,271	75,000	84,600	368,871	186,051	.....
'33	250,588	122,621	111,777	484,986	116,115	.....
'34	224,242	106,244	43,700	374,186	.....	110800
'35	335,635	131,250	90,845	557,780	183,594	.....
'36	442,754	146,738	104,500	695,092	137,312	.....
'37	523,152	223,902	115,387	874,539	167,349	.....
'38	434,684	212,831	76,321	723,836	.....	150704
'39	442,608	220,645	122,300	785,553	61,717	.....
'40	452,291	225,288	148,470	826,049	40,496	.....
'41	584,692	142,158	192,270	919,120	93,071	.....
'42	541,000	272,129	205,253	1,018,382	99,262	.....
'43	706,513	267,734	227,605	1,201,852	183,470	.....
'44	839,934	377,821	251,205	1,468,760	266,988	.....
'45	1,083,824	429,159	266,072	1,779,055	310,295	.....
'46	1,236,583	592,297	318,400	2,077,280	298,225	.....

Extract from a report of R. F. Lord, Esq., dated January 6th, 1847.

The original plan upon which the canal was constructed afforded four feet depth of water, and a maximum capacity for boats carrying cargoes of 30 tons.

The lowest rate of freight for which boatmen had been obtained in the coal business, up to the year 1843, was $1·34 per ton; and it is not probable, that for any considerable increase of business, they could have been retained at that rate; for at that they were more or less transient, and frequently abandoned their boats.

In the month of September, 1842, a plan was adopted for enlarging the canal, to be accomplished by raising the height and increasing the strength of its banks and appendages, with materials taken mainly from its bed and berm side, below the surface of the usual boating head, sufficient to sustain 5 feet depth of water, improve its channel, and make it competent for boats to navigate it, carrying 40 ton cargoes, with a view of making a more desirable business for boatmen, and thereby reduce the rate of freight.

The improvement was commenced in the fall of 1842, and was prosecuted to considerable extent the ensuing winter, in order to realize in part its benefits for the year 1843, and to have it completed during the season of 1844.

The depth of water was gradually increased during the season of navigation, as the banks were prepared to sustain it. Its immediate effects were apparent, from the boats which were adapted to the former head of 4 feet, being able to carry an increased cargo, in proportion to the additional depth of water. The best class of these boats had their sides raised in order to improve the offered advantages; and new boats were built on an enlarged plan, to correspond with the improved canal.

At the close of the year 1844, a review of the improvement exhibited the following result:

There had been expended for enlargement of canal, in 1842,	$8,400 00
1843,	61,228 25
1844,	38,810·62
Making the amount up to the close of the year 1844 equal to	$108,438.87

For the business of the year 1843, the boats commenced the season laden with cargoes the same as they carried in 1842; and, although they moved with greater facility in consequence of the improvement, and were able to carry cargoes of 40 tons before the close of the season, the average cargoes of all the boats, taken for the whole season, does not clearly exhibit the advantages derived that year from the enlargement. The average cargoes for all the boats during the whole season, were 34$\frac{18}{20}$ tons, and the average freight on the whole business of the year was $1·03 per ton; being a reduction of 31 cents per ton on 227,605 tons of coal, (the quantity in 1843,) and equal to the sum of $70,557·55

For the year 1844, the old pattern boats averaged 36$\frac{14}{20}$ tons; those of them that had been raised, 39$\frac{4}{20}$ tons; and the new boats built for the enlargement, averaged 42$\frac{13}{20}$ tons. All the boats taken together for the whole season, averaged 40$\frac{18}{20}$ tons per cargo, or trip; and the average rate of freight was 97 cents per ton, being a reduction from the rate in 1842 of 37 cents per ton, on 251,005 tons of coal, (the quantity in 1844,) equal to the sum of - - - - $92,871.85

showing the reduction of freight for 1843 and 1844, to have been - - $163,429·40

Deduct the amount expended for enlargement up to close of 1844 - $108,438.87

we have an excess in favor of enlargement equal to - - - - $54,990 53

After a review of the advantages derived from the enlargement of canal up to the close of the year 1844, it was resolved to continue the improvement on the same plan, and increase the depth of water to 5½ feet, making the canal competent to the navigation of boats laden with 50 tons; and the requisite work has been progressing during the years 1845 and 1846, being now nearly completed.

There was expended during the year 1845, to complete the first contemplated enlargement, and to continue the improvement in view of increasing the capacity of canal up to the transit of boats laden with 50 tons, the sum of - - - - - $65,314.93

There has been expended during the year 1846, in continuation of the enlargement, including about $26,000 in raising guard banks, etc., to afford greater protection against extraordinary floods, the sum of - $79,610,00

Making the aggregate amount for enlargement in 1845 and 1846, - $144,924.93

In the year 1845 there was an extensive drought, which deranged the navigation more or less during 53 days; and during that period, the boats were laden with light cargoes, and an advance of freight made to compensate the boatmen. In consequence of this, the average tonnage and rate of freight for this year does not exhibit so fully the advantages of the enlargement, compared with the season of 1844. The new boats built for the enlarged canal, during the time there was a full supply of water in it, averaged 45$\frac{11}{20}$ tons, and all the boats for the whole season averaged 42$\frac{3}{20}$ tons; the average rate of freight, including the premium paid for the whole season, was 97 cents per ton, being a reduction from the rate of 1842, of 37 cents per ton, on 266,072 tons of coal, (the quantity in 1845,) equal to the sum of 98,446.64

For the year 1846, the new boats adapted to the enlargement, averaged 46$\frac{13}{20}$ tons, and carried cargoes of 50, 51, 53, and 54 tons in the latter part of the season. All the boats, for the whole season, averaged 46$\frac{7}{20}$ tons per trip, and the average rate of freight was 91½ cents per ton, being a reduction of 42½ cents per ton from the rate paid in 1842, on 318,400 tons of coal, (the quantity in 1846,) equal to the sum of - - - - $136,116.00

showing a reduction in freight for 1845 and 1846, of - - - - - $234,562.64

Deduct the amount expended for enlargement during the years 1845 and 1846 - - - - - $144,924.93

we have in favor of enlargement for 1845 and 1846 - - - - $89,637.71

Add the balance at the end of 1844 - - - - - $54,990.53

Balance in favor of enlargement at close of 1846 - - - - $144,628 24

For a comparative view of the increased capacity of the canal, suppose we pass 96 boats per day, (which would be but four boats each way per hour for 24 hours,) laden 50 tons each, equal to 4,800 tons per day, and the navigation open 180 days, (it was 192 in 1846,) it would give per annum 864,000 tons.

Ninety-six boats per day, laden 30 tons, would be 2,880 per day, and for 180 days, only, 518,400 tons.

By this we have an annual increased capacity of 345,600 tons.

Note.—The above Table does not include the Shamokin and Wilkesbarre districts.

In consequence of the channel of canal having been made more smooth, as well as increased in width, and the very considerable increase of the surface width, which provides for more easily displacing the water by boats, I think that the traction of the boats now, with 50 tons, is no greater than it was in 1842 with 30 tons. The annual repairs of boats have been reduced more than 33 per cent. by the improvement; and, although the rate of freight has been gradually reduced, the boatmen are more permanent, and retain their boats.

During the years 1845 and 1846 a considerable proportion of the boats were of the old pattern, and adapted only to the first proposed enlargement, being competent to carry only 40 to 45 tons, while the new enlarged boats carried 48 and 50 tons; consequently, the average freight for those two years, does not exhibit so clearly the advantages of the improvement as it did for the two years of 1843 and 1844, when the boats were more competent to improve the increased facilities. The old pattern boats are being paid for and their number considerably reduced every season, and their places supplied with boats built to correspond with the enlargement. Nearly all the old pattern boats will be withdrawn from the coal business during the years 1847 and 1848; after which the rate of freight can be brought down to correspond with the enlargement and increased facilities of navigation.

In 1842, 30 tons at $1·34 paid the boatmen $40 20 per trip
50 " 84 cents will pay them $42·00 per trip

The results of the improvement on the canal will be,

1st. Increased strength and permanent solidity, to resist the action of floods.

2d. Additional facilities and certainty of navigation on it.

3d. A large increase of its permanent capacity.

4th. A permanent reduction of about 50 cents per ton on the rate of freight.

All of which has been obtained without interrupting the regular navigation and business of the canal.

Carbondale February 5th 1847.

To JOHN WURTS, Esq,
President of the Delaware and Hudson Canal Company.

Dear Sir:

Agreeably to the request in your favor of the 5th ult., I submit the following report, in which I have endeavored, as briefly as possible, to arrange and describe the various additions, alterations and improvements, which we have made from time to time upon our railroad; the reasons that induced, and some of the benefits resulting from them. Before, however, going into particular details, it may be proper to state generally, that the railroad was at first constructed for a transit business of one hundred thousand tons a year; and that it required five years experience, together with considerable improvement of its original arrangements, before this amount of business was accomplished; while with the changes now made and in progress, our present road will be equal to the delivery of five hundred thousand tons annually. That those of our stockholders who are not acquainted with the nature and appearance of the country through which the railroad passes, may better understand the extent of alteration necessary for increase of business, I have annexed vertical profiles of both the old and new roads; occasional reference to which will, I believe, materially assist the explanations about to be given.

Beginning at the mines, (marked A,) the first improvement of extent sufficient to be noticed, was made in 1836 and 1837. It consisted of an entire change of location and arrangment, for that part of the first road, from (A to B on profiles) the mines to the foot of No. 1, the first steam engine plane. By this change we were enabled to use water power for the greater part of the work upon this section of the road, which work was performed altogether by horses on the original plan; thus making a saving in the cost of transportation of at least 2 cents per ton.

From the foot of No. 1 to the summit of the mountain, or from (B to C on profiles) a distance of four miles, the first location of our road has also been entirely abandoned, with the exception of No. 1 plane and a new road with double track constructed on other ground. This change was made in order to obtain a greater capacity of transit, by equalizing the lengths of the several inclined planes, by giving to the road between the planes a greater rate of descent in favor of the loaded cars, and also reducing the whole distance more than half a mile; thus, on the whole, adding both to the facility and economy of transportation. The five stationary steam engines upon this part of the road have all been increased in power, and are to be still farther increased this winter, so that they will be ready by April next for our contemplated business of half million tons per annum.

Along the summit of the mountain, or from (C to D on profile,) our first road extended one and three-quarter miles, with a very slight descent in favor of the loaded cars. Our present road has reduced this distance to three-quarters of a mile, which distance we are now grading so as to give a greater descent in favor of the loads; by which arrangement one horse will do the same amount of work upon the *new* that two would on the old road. Descending from the summit of the mountain towards Honesdale, the first inclined plane, No. 6, (D E on profile,) of three-quarters of a mile in length, has not yet been much changed from its original location. Its great length, however, limits the business we can profitably do upon it to about three hundred and fifty thousand tons per annum. This defect we are now at work to remedy, by dividing this plane into two, of equal lengths, as shown on profile B, which will increase the capacity of this part of the road sufficiently for all our contemplated business.

There is a short piece of road from foot of No. 6 to head of No. 7, the next descending plane, as also that plane, (E F, profile A,) remaining as at first constructed. Some additions and improvements to the machinery at the head of this plane is all that is required here. It is at this point of our road where we are making preparation to deposit coal whenever the ground at Honesdale becomes filled up, or when deep snows make it difficult and expensive to keep our road open the whole length.

From the foot of No. 7 to Honesdale, a distance of ten miles, we have made important additions and improvements. Our first road, consisting of a single track with turnouts, was divided in this distance into two sections; the first of which from No. 7 to No. 8, (or from F. to G, profile A.) six miles the grade was descending in favor of the loaded cars at the rate of forty-four feet per mile, which enabled them to run by gravity the whole of the distance; the return cars were drawn back with horses, each horse taking four cars.

At No. 8, (profile A,) was another descending plane; from the foot of which to Honesdale, four miles, (G to H profile,) the grade of the road was also descending in favor of the loads at the rate of twenty six feet per mile. On this section of the road horses were required to draw the cars both ways, one horse taking five to Honesdale and bringing them back when empty to the foot of No. 8.

These arrangements continued until our business exceeded two hundred thousand tons a year, when it became evident that a double track would soon become necessary for the whole distance of ten miles. Another and even more important consideration suggested itself, viz: what kind of motive power ought to be used upon the road when it was re-laid. Horses were found to be expensive; it was therefore desirable to get rid of them if possible. Locomotive steam engines were proposed, but this kind of power requires a kind of road that would involve a large outlay of capital to make it safe and efficient through such a country. After careful consideration and examination of the ground over which we had to go in order to be fully satisfied of its fitness for what would be required, I proposed the present plan of road; which, though entirely novel in its arrangements for the return of the empty cars, received the sanction of the Board, and was adopted.

To understand the way in which our work is now done on this part of our road, (F to H, profile B,) we must go back to the foot of No. 7, at F, from which point we occupy for our loaded track, six miles of the first road, extending to No. 8; but instead of descending that plane, (as on the old arrangement,) our new road continues on at the same grade, viz: (forty-four feet per mile) all the way to Honesdale, thus making an uniform descent for ten miles, sufficient to enable the loaded cars to run by their own gravity the whole of this distance without stopping. (See black line marked "loaded car road," on profile B, from F to H.) For the return of the empty cars from Honesdale back to No. 7, we have

constructed another track, entirely different in its location from that used by the loaded cars, and employ stationary engines to draw up the cars to such elevations as enable them also to run by gravity from one engine to the other. (See chain and dotted line marked "empty car road," profile B, representing the empty track.)

On account of the hilly nature of the country, five engines were required for the ten miles; four of which were originally steam engines, and one a water wheel. In making locations for these engines we kept in view the economy of water instead of steam power for this kind of work, and were so fortunate as to find situations for all of them, (except the one at Honesdale,) where water could be used whenever the owners of it would sell at prices which it might be expedient for the Company to pay. Last year we accordingly made a purchase which gave us the control of water for one of these engines, (No. 5,) and changed it for a water wheel. This year we have been able to purchase land giving the control of water for the other two engines; one of which we shall change this winter, and the other the winter following, when four of the five engines will use water to do their work.

It may be proper here to state, that the work necessary for the construction of our new road was commenced in 1842, and nearly completed in 1844; we have, therefore, two years experience of the expediency of the change. This, I am happy to say, is fully equal to our most sanguine expectations.

The preceding descriptions include all the principal alterations made upon our main railroad from Carbondale to Honesdale. At this place, also, we have had to make some important additions to our original work, in order, (principally,) to enable us to deposit, during the suspension of canal navigation, the greater part of the coal brought over the railroad, amounting to from eighty to one hundred thousand tons. To this end it was requisite to provide ground to hold such quantity within reasonable extent, together with the engine power and machinery necessary to elevate, so that it can be piled with economy and despatch, and with the increased facilities called for by our enlarged business, to load boats, screen coal, and separate it into various sizes, carry off the culm, or refuse dust, etc.

We have now a main road and machinery capable of sending to market five hundred thousand tons a year, or four hundred thousand tons more than was originally contemplated.

In view of this increased capacity of our main railroad from the mines at Carbondale to the canal, it was deemed advisable, as early as 1843, to commence an extension of it some seven miles further down the valley to the Company's coal lands in the township of Blakely, in order to procure a part of the coal sent to market from this field. This extension is now finished, and mines in progress of being opened at its termination, by which we will be able, by the first of May next, to deliver from three to four hundred tons per day. A profile of this road marked C, is drawn upon the same sheet with the others; by reference to which it will be perceived, that it is constructed upon the same plan as that part of our main road from No. 7 to Honesdale, with two tracks, descending in contrary directions; on one of which the cars, after being loaded at the mines, (point A on profile C,) are drawn up from A to B by two stationary steam engines; from which elevation they run by gravity to Carbondale, a distance of seven miles, where they connect with the main road, near the foot of the water plane, (at I on profile C.) On the other track the empty cars are elevated at Carbondale, or from D to E, by one steam engine, and run from thence to the mines at A, (see line marked "empty car road," on profile C,) a distance of seven miles by gravity, on a descending grade of fifty feet per mile.

A slight examination of this plan of road will show the simplicity of all its arrangements and fitness for our business.

I have thus far confined my explanations to the changes, improvements and extension of railroad and engine power, the cost of which is charged to increased capital. The aggregate amount expended for these objects, and charged to capital, may be taken at three hundred and twenty-eight thousand eight hundred and ninety dollars and forty-six cents, ($328,890 46.) Large as this expenditure may appear, the Company will be amply remunerated for it in a few years, by the increased capacity of the road and the greater economy with which it is worked.

It ought also to be kept in view, that the progress of our business has required extensive additions to both mining and transportation departments, necessarily involving a large expenditure from which we have not yet derived much benefit. This will be realized hereafter. Part of this outlay has been charged in the account of current expenses, and the remainder to an account for improvement, of which a portion is charged to each year's business, as it may be estimated to have received benefit. In conclusion I think I can safely say, that we are now in a state of good preparation for the businesss of the year; and that, unless some unforeseen difficulties occur, we shall accomplish all that was contemplated.

Respectfully, Yours,
JAMES ARCHBALD.

Increase of Travellers leads to Diminution of Fares.

Already we have 10,000 miles of railway made, making, or sanctioned, superseding more or less the 25,000 miles of turnpike-roads which exist in England and Wales. As railways have spread, travellers have increased in number, and fares have been diminished. In 1845, the London and Birmingham conveyed more than treble the number of passengers over twice the number of miles, for less than double the amount received in 1839.

	Passengers.	Miles.	Receipts.
Half-year ending June			
1839,	967,144	17,391,035	£270,241.
1845,	612,904	38,758,260	447,190.

—*Sidney's Speed on Railways.*

This result usually follows the reduction of fares.

EXPERIMENTS ON VERY HEAVY GRADIENTS, have recently been made by Mr. D. Gooch, of the Great Western, and duly recorded in the columns of the *Morning Herald*. They took place on the portion of the Swindon and Gloucester line lying between the 98¼ and 95¾ mile posts. The line, for the whole of this distance is a series of S curves, varying from 2000 to 3600 ft. radius; and the starting point, from which the experiments commence, viz. the 98¼ mile post, is on a rising gradient of 1 in 105. This gradient extends to a little more than a furlong, and is succeeded by a rising gradient of 1 in 75 for about half a mile. There is then a rising gradient of 1 in 70 for nearly a quarter of a mile, followed by a rising gradient of 1 in 75 for rather more than three-quarters of a mile. We then come to a level of about a quarter of a mile. There is then a rising gradient of 1 in 70 for nearly a quarter of a mile, and next a rising gradient of 1 in 60 for nearly three-quarters of a mile. It was over these severe gradients (all of them on curves) that the power of the locomotive was tested, and, in order that the power might be really and commercially tested, the train was brought to a dead stand upon the incline of 1 in 105. The first experiment was with 50 tons exclusive of the engine and tender. It was taken by the "Great Western" engine, which was 8 ft. driving wheels, 18 in. cylinder, and 2 ft. stroke. The train left the 98¼ mile post at 12 h. 47 m. 15½ s., and reached the 95¾ post at 12 h. 53 m. 14 s. performing the 2½ miles in 5 m. 58½ s., or at an average speed of 27 miles an hour. The second experiment was with 60 tons with the same engine. The train started at 1 h. 56 m. 12½ s., and passed the 95¾ mile post at 1 h. 32 m. 54½ s. doing the distance, therefore, in 6 m. 42¼ s., or at the average rate of about 24½ miles per hour. The third experiment was with 111 tons, drawn by two locomotives — the "Dreadnought" goods engine, with 5 ft. wheels, 16 in. cylinder, and 5 ft. stroke, and by the "Great Western."

The train started at 3 hours 55 minutes 47½ s., and passed the 95¾ post at 4 h. 2 m. 16½ s. The distance was therefore performed in 6 m. 29 s., or at the average rate of 25 miles per hour. The fourth experiment was with the same load of 111 tons, with the "Dreadnought" alone. The train left the starting-place at 4 h. 34 m. 57¼ s., and passed the 95¾ post at 4 h. 42 m. 42¾ s., and doing the distance in 7 m. 45 s., or at the average rate of about 23 miles per hour. The fifth and last experiment was with 70 tons, with the "Great Western." The train started at 4 h. 26 m. 7¼ s., and passed the 95¾ post at 4 h. 33 m. 51¼ s., being therefore 7 m. 44½ s. on the journey, and performing the distance at an average speed of about 23 miles per hour, doing, therefore, not more than the coupled goods engine had just performed with 111 tons. The moment before the "Great Western" started with the 70 tons a slight sprinkling shower came down and wetted the rails.—*Railway Chronicle.*

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, June 12, 1847.

Delaware and Hudson Canal.

We give in this number of the Journal the Annual Report, entire, of this Company. The prosperity of this work is almost as gratifying to those—not interested in its stock—who have watched its course during the past *twenty* years, as it is to those of its early shareholders, who have adhered to it through "good report and evil report," until they are reaping a rich reward for their perseverance. It is deserving of a more extended notice than we can now give—but we shall probably again refer to it, and can only add that it should be read by every friend of internal improvement, and every consumer of anthracite coal in the country.

We give annexed a list of the Directors and Officers of the Company for the current year.

OFFICERS OF THE DELAWARE AND HUDSON CANAL COMPANY, FOR 1847.—MANAGERS.

John Wurts,	Aquila G. Stout,
Philip Hone,	Henry Young,
Wm. M. Halstead,	Jacob R. Le Roy,
Isaac L. Platt,	Irad Hawley,
Allison Post,	Wm. S. Herriman,
Silas Holmes,	Cyrus Hitchcock,

Charles N. Talbot.

John Wurts, President.
Isaac L. Platt, Vice-President.
Isaac N. Seymour, Treasurer and Secretary.

Tunnel.

Our Canadian friends are becoming a great people. They have secured the construction of a Railroad bridge over the Niagara river below the falls. It is now said they will make a tunnel under the St. Lawrence river at Montreal to enable the Boston Railroad to enter the city. The river at that place is 40 feet deep and one third of a mile wide. The tunnel is estimated to cost a million of dollars.

Singular Discovery in Mississippi.

The Louisville Journal, in a recent article says: "In the South-western part of Franklin county, Miss., there is a platform or floor of hewn stone, neatly polished, some three feet under ground. It is about one hundred and eighty feet long, and eighty feet wide. It extends due north and south, and its surface is perfectly level. The masonry is said to be equal, if not superior, to any work of modern times. The land above it is cultivated, but thirty years ago it was covered with oak and pine trees, measuring from two to three feet in diameter. It is evidently of very remote antiquity, as the Indians who reside in the neighborhood had no knowledge of its existence previous to its recent discovery. Nor is there any tradition among them from which we may form any idea of the object of the work, or of the people who were its builders. There is also a canal, and well connected with it, but they have never been explored. A subterranean passage may be underneath. Farther explorations may throw some light upon its origin."

New Style of Locomotive.

The plan of MR. NICOLLS, civil engineer of the Reading Railroad, is about to be introduced into use upon that road, which is intended to consume *anthracite coal*. The boiler is intended to be placed upon one set of wheels, and the engine upon another, working free and independent of it, with the connection between the engine and boiler formed by means of a copper pipe working flexibly by means of a universal joint.

It is intended to be used upon the principal of low pressure, by condensing, similar to the plan now most approved upon steamboats. We have always been of the opinion that locomotives upon this road, more particularly than upon any other, should use coal instead of wood for fuel, both as regards economy and policy. Whether Mr. Nicolls has hit upon the most judicious plan of accomplishing this object we shall be better able to judge from actual experiment. A substitute of coal for wood, we understand, would make a saving to the company of over one hundred thousand dollars a year—quite an item.

Rochester Flour Trade—Canal Tolls.

From the Rochester Democrat we learn that the amount of flour shipped east on the canal from the opening of navigation to the 15th of May, is as follows:

1847	68,992
1846	52,823
Increase in 1847	16,169

It will be seen that the amount shipped in two weeks of 1847 exceeds that of four weeks in '46 by over 16,000 bbls.

The following is a statement of the tolls collected at the port of Rochester, on the Erie and Genesee Valley Canals for the first two weeks of navigation:

From May 1st to May 15th, 1847	$25,998 92
First two weeks in 1846	8,288 37
Increase in 1847	$17,710 55

The canal opened last year on the 16th of April; this year, May 1st. The following will show the tolls collected from the opening of navigation to May 15th each year:

1847	$25,998 92
1846	10,454 76
Increase in 1847	$15,544 16

It will be noticed that the tolls collected in two weeks of 1847, are more than double the amount collected in four weeks in '46.

Air-Line Railroad between New York and Boston.

The point on which much anxiety has been felt in connection with this subject, has been settled for the present, in regard to the Massachusetts section. Notwithstanding the Committee to whom the subject was referred, may have been somewhat influenced by the interests of the existing Railroad Corporations, the route decided on will not materially vary the distance from that of the true air-line route.

This route, which is the one petitioned for by Nathaniel Miller and others, commences at the terminus of the Walpole Railroad in Walpole, thence passing through Wreatham, Franklin, Bellingham, and a corner of Blackstone, through the village of Waterford in the town of Blackstone, to the west side of Blackstone River, opposite the village of Blackstone, and there intersecting with the Providence and Worcester Railroad. The length of the line to be construced on this route is 17 miles, of which 14½ are a straight line. It has no curve of a less radiance than 3800 feet, and the maximum ascent is 35 feet to the mile for 3½ miles. The principal objection, if any, to this route, is the inconvenience of subjecting the immense business of this road in any measure to the control of another company. But this may be the best route, nevertheless.

Grand Improvement in Iron Manufacture.

The machinery of most of the furnaces erected within the year past, is operated by water power; but by the recent introduction of certain important improvements in which steam power has a decided advantage, it is thought it will generally be adopted in preference. At Jackson's furnace, at Westport, Mass., steam power is employed, and the advantages thereof together with those of the improvements referred to, are such that the cost of the manufacture has been reduced nearly 40 per cent. A flue is placed within the furnace chimney or funnel, and extends nearly to the top; and by this flue the hot gas and smoke is returned and brought down to the end of the steam-boiler furnace, where it passes through a perforated iron plate when it comes in contact with atmospheric air, whereby a brilliant combustion is produced, and this flame passing under the boilers, generates as much steam as is required for all the business of the furnace, and drives a mill besides. Another improvement has been projected by a gentleman connected with the iron business in Massachusetts, by which this hot gas from the furnace is first passed through a series of chambers, enclosing ovens filled with wood, which is thereby perfectly charred; the gas being afterwards passed to the engine furnace, mixed with air and ignited, produces an intense flame. The wood is thus converted to charcoal without expense, and the pyroligenous acid produced in the process, is ordinarily sufficient to pay the entire first cost of the wood; thus furnishing charcoal for the iron furnace free of expense.

Important Improvement in Steam-Engines.

Mr. C. C. C. Smith, an ingenious mechanic of Boston, is engaged in perfecting an arrangement of the parts of the common steam engine, in such a manner as to nearly supersede the use of the pumps, prevent entirely the incrustation of the boiler, and save much of the ordinary requisite attention of the engineer. The principle, says the Scientific American, may be thus explained:

The boiler is at first supplied with the required quantity of water, and when the steam is raised, and the engine started, the exhaust steam is immediately condensed in a cold receiver, and the water produced by the condensation, is, by the operation of the machinery, forced back into the boiler, without allowing a particle of the steam to escape, thus securing an uniform quantity of water in the boiler. And whenever it is requisite to blow off steam, the escaping steam is also condensed and immediately returned to the boiler. We are aware that the celebrated Perkins attempted the use of this principle in part, with his extra-high pressure engines, but did not succeed; nor did he attempt the condensation of the steam from the safety valve. And it is certain that this plan has never been successfully applied to low pressure engines, though we see no good reason why it may not be done. We would encou-

rage Mr. S. to persevere till he has brought this important desideratum to practical perfection.

The Telegraph System.

We have received the following communication in reply to our remarks in the Journal of 10th of April on this subject. It has been delayed, in consequence of our absence, longer than it should have been, as we desire always to give our readers both sides of every question of importance on which we hold views different from those interested. We aim to give the truth—and are always open to conviction.

We shall, in our next, give a synopsis of the arguments against the bill alluded to by Mr. Kendall.

WASHINGTON, MAY 26th, 1847.

D. K. Minor, Esq., Editor of the American Railroad Journal.

Sir—A friend has put into my hands a number of your paper dated the 10th ult., containing an editorial article, headed "The Telegraph System," which I deem it my duty to notice.

You say "It is generally understood that Mr. Kendall refuses TO SELL the patent on any route or to allow its use on any terms, other than on the condition of the patentees having, as a consideration for the use of the patent, one half the stock or property in any line on which it may be used."

You have been greatly misinformed on this point. A line from Philadelphia, through Reading to Pottsville, has been absolutely sold and paid for, and several others in Pennsylvania have been bargained away in the same manner. And I am happy to inform you and your readers, that *every line in the Union*, not already bargained away, is for sale in like manner *without any reservation of stock or property therein whatsoever.*

You are equally in error where you say, that "a further objection to the whole system is, that imperfect as it is, it has become *a monopoly of the closest kind*, and threatens to be one of *monstrous character*. Some two or three, or a small number of individuals, of whom Mr. Kendall is the copartner and agent, owning under this system, *one half* the stock, have the absolute control of all the telegraphs in the United States, with the power of taxing, to any extent, the transmission of intelligence, *however imperfectly the duty may be performed.*"

I have already shown you that on some of the lines the persons alluded to neither exercise nor *possess* any power whatsoever.

Nor do they possess a *controlling* power over any of the organized companies in which they are stockholders. Under their Articles of Association, no stockholder can give more than one sixth of the aggregate vote. This restriction reduces the power of the Patentees far below one-half, even where they hold half the stock, and give the other stockholders a preponderance equal to sixteen against four.

That preponderance in the company which has honored me with its Presidency, has been largely augmented by the sale of one fourth of the Patentees' stock, and their power now, in the vote of that company, is but as seven to twenty, and no more.

The same restriction exists and a portion of the Patentees' stock has in like manner been sold in the New York, Albany, and Buffalo Company.

In the original contract for the line west from Philadelphia only *one-fourth* of the stock, and of course but a fourth of the power was reserved to the owners of the Patent.

It is there, that in some contracts upon which companies have not yet been organized, there is no restriction upon the vote of the stockholders. But is it supposed by any man, that the object of the Patentees or myself in this enterprise is *power?* No; it is *money.* We *sell* all the small lines *absolutely*, and sell half of the great lines *for means to build the other half*, except so much of the stock as we choose to retain as a permanent investment. We care nothing for *the power*, and cheerfully yield the management to the other stockholders, and shall do so as long as abuses do not require our interposition.

You may not be aware, that when I became Prof. Morse's Agent in the Spring of 1845, his Patent could have been sold for little or nothing. I thought the plan to make it "most valuable to himself" was to retain an interest in the great lines until experience should have demonstrated their value which was wholly unknown but believed by me to be very great. Perhaps I was mistaken; and if you can now inform me of a better plan by which Morse's great invention can be made more "valuable to himself or to the public," I will be largely your debtor.

Are you right when you say, "No one ever heard before of an inventor refusing *to sell* his patent and requiring as a consideration for its use, not only half the profits to accrue from it during the existence of the Patent, but half the *property* on which it was to be applied?" I think the cases are numerous in which Patentees without money have gone into partnership with capitalists, the one putting in the patent right and the other money, and owning in common the machines built and the articles manufactured. Of this *right* to form such partnerships, there can be no doubt. Whether they will do so or sell their patents for a sum of money, is a matter for their own consideration. On one point I concur with you: It is in the suggestion that the police of the Railroad Companies may be advantageously employed in looking after the Telegraph lines, and I do not doubt that the mutual interests of the parties concerned will in due time lead to that result. But in my opinion, no greater evil could befal the Telegraph than that it should be placed, especially on the great lines of correspondence, *under the control* of the Railroad Companies. Such a system would produce four Telegraph Companies between New York and Washington instead of one; three on the great Southern line through Virginia, and some dozen or twenty between Washington and New Orleans instead of one. When you reflect, that each Railroad Company is *local* in its position and views; that each is always striving to make the most money it can, without regard to the interests of the rest; and that it is found impracticable for them to unite upon a through ticket for travel, you will be at no loss to decide whether the control of the Railroad Companies, each along its own line, or of independent companies with more comprehensive objects and views, will render the Telegraph "most valuable to its owners or to the public."

There are men in the country, some of them connected with railroads, who looked quietly on while the Telegraph was struggling into existence, without giving it a dollar of money or a word of encouragement; but, now that the principal difficulties have been overcome by the means, labor, and perseverence of others, they are very willing to "reap where others have sown." But they are not content to come into the enterprise on the same terms as those who have gone before them. They claim *higher privileges* and *better terms*, as if they merited special favors and dispensations at the hands of Professor Morse and his associates; and if these are refused, they find fault with every thing; talk and act as if some wrong had been done them, and exhibit a peculiar antipathy to "*Mr. Amos Kendall.*"

We had recently a notable instance of this sort in Virginia. The Richmond, Fredericksburg, and Potomac Railroad Company desired to build Morse's Telegraph, but were unwilling to do it on Morse's terms—terms which could be and have been obtained from other parties. An attempt was then made to obtain an Act of the Virginia Legislature granting to the Railroad Companies *the exclusive right* to construct a Telegraph on the great Southern mail route, and compelling Professor Morse and the other owners of his patent to sell to those companies and nobody else, or, in case of refusal, depriving them of the power to use it on that route altogether! That I may not be suspected of misrepresentation, I must give you some quotations from the bill actually drawn by the Agents of the Railroad Company, and actually passed through one branch of the General Assembly.

The first and second sections gave to the three Railroad Companies, (one of them extending about 23 miles) power to establish a Telegraph and to "make such charges for the use of said Telegraph lines, or for the transmission of intelligence or messages of any description by the same, *as may seem to them most advisable.*" The third section among other things provided that "the said Railroad Companies shall be bound to pay for the use of Morse's Patent such sum as may be, in the opinion of the Board of Public Works, a fair and reasonable compensation for the use of said patent on their respective roads."

The sixth section was in the following words: viz.

"*Be it further enacted*, That any other person or persons than the said companies, or those who may act by their authority, who may construct, or attempt to construct or maintain a line of Telegraph in the state, east of the Blue Ridge, similar to those herein authorized, without the authority of the General Assembly, along any of the public roads of this state, shall be deemed guilty of a misdemeanor, and be punished as for a misdemeanor at common law."

As the State of Virginia owns two-fifths of the stock in the Railroad Companies, it was reasonable to conclude that the General Assembly would never allow a competing line to be established; and if the bill had become a law, Professor Morse would have had no alternative but to *part with his patent right on that line, altogether upon the valuation of an interested party*, or relinquish all attempts to make it valuable to himself. And from the mouth of him who was working the power of the General Assembly to force Professor Morse to part with his property that it might be made a LEGAL *monopoly* in the hands of the Railroad Companies which he controls, I heard, before a Committee of the Senate, the identical arguments against monopoly as well as other suggestions which I find in your article.

I enclose for your perusal an epitome of the arguments which satisfied the General Assembly of Virginia that they ought not to make the Telegraph a monopoly in the hands of the Railroad Companies, and also a printed bill, containing all the material provisions of the Act which they finally passed. Knowing that you can have no motive to lead your readers astray, and must desire, as well to give them correct information as to guard them against error. I shall be happy at all convenient times to answer any inquiries from you relative to the present Telegraph system and the manner in which it is conducted.

With high consideration,

Your Ob't Servant,

AMOS KENDALL.

MASSACHUSETTS ANNUAL RAILROAD REPORTS.

Return of the Western Railroad Company, under the Act of April 16, 1846.

Capital stock	$3,000,000 00
Increase of capital since last report	400,000 00
Capital paid in, per last report	3,000,000 00
Capital paid in since last report	400,000 00
Total amount of capital stock paid in	3,400,000 00
Funded debt, per last report	4,999,555 56
Funded debt paid since last report	
Funded debt, increase of, since last report	
Total present amount of funded debt	4,999,555 56
Floating debt, per last report	
Floating debt paid since last report	
Floating debt, increase of since last report	
Total present amount of floating debt	
Total present amount of funded and floating debt	4,999,555 56
Average rate of interest per annum on do.	5 1-5 per cent.

COST OF ROAD AND EQUIPMENT.

For graduation and masonry, per last report	3,146,496 36
For graduation and masonry, paid during the year,	7,545 50
Total amount expended for graduation and masonry	3,154,039 86
For bridges, per last report	163,736 23
For bridges, paid during the past year	
Total amount expended for bridges	163,736 23
For superstructure, including iron, per last report,	1,031,686 08
For superstructure, including iron, paid during the the past year	22,347 38
Total amount expended for superstructure, including iron.	1,054,033 46
For stations, buildings and fixtures, as per last report	232,178 14
For stations, buildings and fixtures, paid during the past year	18,153 87
Total amount expended for stations, buildings and fixtures	250,332 01
For land, land-damages and fences, per last report.	234,454 97
For land, land-damages and fences, paid during the past year	42,551 19
Total amount expended for land, land-damages and fences	277,006 16
For locomotives, per last report	347,470 72
For locomotives, paid during the past year.	71,507 42
Total amount expended for locomotives	418,978 14
For passenger and baggage cars, per last report	50,418 02
For passenger and baggage cars, paid during the past year	4,648 47
Total amount expended for passenger and baggage cars	55,066 49
For merchandize cars, per last report	248,018 41
For merchandize cars, paid during the past year	122,529 60
Total amount expended for merchandize cars	370,548 01
For engineering and other expenses, per last report.	665,850 61
For engineering and other expenses, paid during the past year	
Total amount expended for engineering and other expenses	665,850 61
Total cost of road and equipment	6,409,590 97
[Cost of Albany and West Stockbridge railroad—built and leased by Western railroad]	1,776,197 45

CHARACTERISTICS OF ROAD.

Length of road	117·804 miles.
Length of single track	111·350 miles.
Length of double track	6·454 miles.
Length of branches owned by the company, stating whether they have a single or double track.	
Weight of rail per yard in main road	56½ lbs.
Weight of rail per yard in branch roads	
Maximum grade, with its length in main road	83 ft. per mile, 1·5 miles.
Maximum grade, with its length in branch roads	
Total rise and fall in main road	2087 ft.
Total rise and fall in branch roads	
Shortest radius of curvature, with length of curve in main road	882 ft.; 490 ft. in length.
Shortest radius of curvature, with length of curve in branch roads	
Total degrees of curvature in main road	6370 ft.
Total degrees of curvature in branch roads	
Total length of straight line in main road	62·935 miles.
Total length of straight lines in branches	
Aggregate length of truss bridges	6092½ feet.
Whole length of road unfinished on both sides	

DOINGS DURING THE YEAR.

Miles run by passenger trains	215,369
Miles run by freight trains	313,259
Miles run by other trains	45,328
Total miles run	573,956
Number of passengers carried in the cars	265,664
Number of passengers carried one mile	14,273,181
Number of tons of merchandize carried in the cars.	166,394
Number of tons of merchandize carr ed one mile	15,748,253
Number of passengers carried one mile, to and from other roads	7,042,846
Number of tons carried one mile, to and from other roads	11,275,654
Average rate of speed adopted for passenger trains, including stops	25 miles per hour, Boston and Springfield. 20 miles per hour, Albany and Springfield.
Average rate of speed adopted for freight trains, including stops	10 miles per hour.
Estimated weight in tons of passenger trains, including engine and tender, but not including passengers, hauled one mile	9,691,605
Estimated weight of merchandize trains, including engine and tender, but not including freight, hauled one mile	31,952,418

EXPENDITURES FOR WORKING THE ROAD.

[For repairs of Albany and West Stockbridge road]	$11,601 46	
For repairs of road, maintenance of way, exclusive of wooden truss bridges and renewals of iron	32,495 54	
For repairs of truss bridges	11,674 13	
For renewals of iron, including laying down	24,522 12	
For wages of switch-men, gate-keepers and flag-men		
For removing ice and snow	2,973 94	
For repairs of fences, gates, houses for flag-men, gate-keepers, switch-men, tool-houses		
Total for maintenance of way	83,267 19	

MOTIVE POWERS.

For repairs of locomotives	41,209 25	
For new locomotives to cover depreciation	9,700 00	
For repairs of passenger cars	3,394 31	
For new passenger cars to cover depreciation	4,750 00	
For repairs of merchandize cars	21,899 75	
For new merchandize cars to cover depreciation	10,500 00	
For repairs of gravel and other cars		
Total for maintenance of motive power	89,453 31	

MISCELLANEOUS.

For fuel and oil	95,006 01	
For salaries, wages and incidental expenses, chargeable to passenger department	22,508 18	
For salaries, wages and incidental expenses, chargeable to freight department	63,458 63	
For gratuities and damages	7,514 91	
For taxes and insurance	1,360 49	
For ferries	2,785 17	
For repairs of station building, aqueducts, fixtures, furniture	16,195 09	
For interest	244,731 57	
For amount paid other companies in tolls for passengers and freight carried on their roads, specifying each company		
For amount paid other companies as rent for use of their roads, specifying each company		
For salaries of president, treasurer, superintendent, law expenses, office expenses of the above offices, and all other expenses not included in any of the foregoing items	31,130 89	

INCOME DURING THE YEAR [11 months.]

For Passengers:	389,861 42	
1. On the main road exclusively, including branch owned by company	217,064 22	
2. To and from other roads, specifying what:	172,797 20	
For Freight:	459,365 18	
1. On main road and branches owned by company,	156,958 68	
2. To and from other connecting roads:	302,406 50	
U. S. mails, Rents	29,191 29	
Total income	878,417 89	
Net earnings after deducting expenses	221,005 52	

DIVIDENDS.

	204,000 00	
Surplus not divided	17,006 52	
Surplus last year	87,005 47	
Total surplus	104,011 99	

ESTIMATED DEPRECIATION BEYOND RENEWALS, VIZ:

Road and bridges	
Buildings	
Engines and cars	

Addison Gilmore, Edmund Dwight, John Howard, Josiah Stickney, Stephen Fairbanks, James Russell, Robert Campbell, Jona. Chapman, Abrm. H. Howland—*Directors.*

REPORT OF COMMISSIONERS

On the Sinking Fund of the Western Railroad.

The Commissioners of the Sinking Fund of the Western Railroad, in compliance with the direction of the Statute, submit the following report of their proceedings during the past year, of the amount and condition of the said fund, and of the income of the same:

The amount of this fund on the 31st day of December, 1845, as per commissioners' report,	$290,619 61
And there has been received from the Western Railroad Corporation, Dec. 31, 1846, 1 per cent. on loan of $4,000,000,	40,000 00
Received for dividends and interest, including $1,234 25 gain on sale of 75 shares Boston and Providence Railroad stock,	18,631 81
	$349,242 42

The investments are as follows:

Notes and mortgages,	$203,700 00	
Notes and collateral,	900 00	
	$204,600 00	
$29,000 U. States 5 per cent. stock, cost	$29,860 00	
$7000 U. States 6 per cent. stock, cost	7,000 00	
100 shares Providence Railroad stock,	9,500 00	
122 shares Boston and Worcester Railroad stock,	14,096 96	
44 shares Boston and Lowell Railroad stock,	26,298 75	
200 shares Old Colony Railroad stock,	20,864 50	
	107,650 21	
Cash on hand,	37,022 21	
	$349,242 42	

If there be added to this $27 00 interest due and unpaid, also interest accrued but not due, it will amount, on the 1st day of January, 1847, to $354,618 12, which would be the whole amount of this fund on that day.

In submitting this report, the commissioners would ask leave to call the attention of the Legislature to the following facts:

The debt which this fund is intended to meet falls due between April 1, 1868, and April 1, 1871; the amount in the fund, at the average of those dates, at compound interest, will exceed $3,000,000 of which one-third, or over $1,000,000, will be in mortgages.

The existence of so large a fund may render it difficult to obtain suitable investments, and it would be almost impossible to convert, at one time, such an amount of mortgages into money.

The commissioners would, therefore, suggest the expediency of allowing a greater latitude in the kinds of investments, and, particularly, of authorizing the commissioners to purchase and return to the Commonwealth any of the bonds issued by the State, in aid of the Western Railroad, that they may be cancelled, and the liabilities of the Commonwealth thus far diminished.

JOS. BARRETT,
JOSIAH QUINCY, JR., } *Commissioners.*

The Discoveries of 1846.

We apprehend, and there can be no doubt that the year 1846 will be memorable to the end of time, for the remarkable extensions, or new applications, of human knowledge, which will come before future historians as rendering illustrious its narrow limits. Most evident is it that we are now living in the days predicted by the Hebrew prophet; when "*many shall run to and fro: and knowledge shall be increased.*"

1. Foremost awong these may be placed the use of ether, inhaled for the facilitating operations. Like all other appliances of this kind, it meets with failures and even with evil results in a few cases. But for one fatal result and five failures we have five hundred instances of vast benefit, in many of which, beyond all doubt, lives have been saved. Without describing it as infallible, or in all cases safe, or to be relied on there can be no doubt that this discovery has conferred vast benefits on mankind.

2. The substitution of a new explosive material, — the gun-cotton, — in place of gunpowder, is another remarkable event. The extent of its utility is not yet ascertained. Whether it will be largely adopted in warfare is still a point on which no decided opinion has been formed. But of its great utility in all blasting and mining operations, not the slightest doubt can exist. It is both cheaper and more powerful than gunpowder, and the absence of smoke gives it a decisive advantage. There can remain no question, that in all works of this description, the new agent will rapidly supersede the old one.

3. The third discovery of 1846 is perhaps even of greater importance than either of the former. We allude to the lately patented process for smelting copper by means of electricity. The effect of this change will be quite prodigious. It produces, in less than two days what the old process required three weeks to effect. And the saving of fuel is so vast, that in Swansea alone the smelters estimate their annual saving in coals at no less than five hundred thousand pounds. Hence it is clear that the price of copper must be so enormously reduced as to bring it into use for a variety of purposes, from which its cost at present excludes it.

The facility and cheapness of the process, too, will enable the ore to be largely smelted on the spot. The Cornish mine proprietors are anxiously expecting the moment when they can bring the ore which lay in the mine yesterday, into a state to be sent to market to-morrow; and this at the very mouth of the mine. In Australia also, the operation of this discovery will be of the utmost importance. Ten thousand tons of copper ore were sent from Australia to England last year to be smelted at Swansea; and the result was only 1600 tons of copper. But Australia in future will smelt its own copper, by a 36-hours process; saving all this useles freight of the 8400 tons of refuse; and saving also the cost of the old expensive process. In a very few years Australia will send to market more copper than is now produced by all the rest of the world. But if our future penny-pieces are to bear any proportion to the reduced cost and value of the metal, they must be made of the size of dinner plates.

Vermont and Massachusetts Railroad.

After an unusually protracted session, our Legislature has closed, and prominent among its acts involving the question of public policy and justice to citizens, stands the refusal to the Vermont and Massachusetts Railroad —not of a state subscription to its stock—not an issue of its Scrip—but the simple privilege to borrow from another corporation the aid which that had received from the state to its great benefit and prosperity, but now no longer needing it, would be glad to endorse over to another for a like benefit. At the hands of a parent Commonwealth, having an interest in the prosperity of her whole family, *this* has been refused—and this too, after the bill in its transit by the usual course of legislation, had *almost* passed without opposition. By what influence, and for what reason and purpose this change in the action of the House was produced, is a subject of general inquiry.

The Vermont and Massachusetts Railroad is an extension of the Fitchburg, across the whole breadth of Worcester North, into Franklin county, to Brattleboro', Vt., with a view to intersect the Rutland at Bellows Falls, and ultimately destined to be the trunk of an extension from some point to the Hudson River, and for its importance prospectively, second to no road in the state. Its whole line, from Fitchburg to the Connecticut, abounds in water-power to an extent unequalled by any other line of the same distance, passing through a community unsurpassed for their enterprise, thus uniting the two greatest elements for business, water-power and enterprise. Such is the Vermont and Massachusetts Railroad in its claims and importance to the Public, in which Worcester North has a great interest, and while struggling as many other roads (now the most prosperous under this aid) have done before, why has it received this blow to its prospects of immediate completion and success? For this the people of Worcester North feel aggrieved. And feel it sorely. Has it thus fallen upon us because in past years, when this policy which has triumphantly benefitted the state, was made a political question, and as the Whig anchor of the state and *county*. Worcester North unitedly came forward in support of it, and particularly the Western Road in her days of application and peril? She then held and gave the casting vote deciding the date of that great public work, fixing upon the Commonwealth the "mortgage," then made the party "whistle" of alarm, now so safe and productive—or has the rod been thus applied to us beeause, with feelings of pride for her prosperity in becoming a great centre, we have always attached ourselves to Worcester, and with the most loyal feelings have resisted from *without* every application to separate from her, and thus when we ask in our turn, what by our influence the state has liberally conferred on others, we are turned upon and refused? The spirit of inquiry from whose hands we have been thus treated, has actively gone forth—Why the sudden change in the action of the House, and who among *us* made the somerset, by a direct vote, or dodged the question, and for the want of whose voice and efforts it was finally lost.

When the bill was first acted upon in the House, it stood upon its own merits, and before private feelings, sectional prejudices, and corporate interests were awakened, passed with hardly an opposition—this was an honest action of the House, worthy the former character of our Legislature for the broad, liberal and comprehensive views of public policy, under which she exhibits an extent of railroad all paying good interest, resting on individual enterprise, beyond any other, if not every other, state in the union of like character for its soundness and value.

Who among us indulged in these prejudices and feelings? They will commend no

one to the future suffrage of the North, whose liberal example may justly reproach them with injustice.

The "moonshine" plea of *precedent* is the only one made, and that came with an ill grace from those who had been eminently the beneficiaries of the policy—an old harp always used to alarm, but never practised in legislation. If *precedent* could be placed in claim for legislative action, why should not every band or railroad charter applied for, be at once granted?—there are certainly precedents enough!—practically, every case stands on its own merits, and the question of public good is the true test of decision. Shall the state refuse to do justice to a party for fear that under the plea of *precedent*, they may be required to do injustice, or a wrong act?

Though the Vermont and Massachusetts road may be retarded in its progress, and the public deprived of its benefits, and the corporation lose an income from the use of its whole length, yet, with one million of money paid in, and the road constructed as far as this outlay will carry it, with the business it will be able to exhibit, it will possess an irresistible inherent power to carry itself through in spite of every obstacle.

WORCESTER NORTH.

We copy the above article from the Worcester Ægis. We know from personal observation that the Vermont and Massachusetts Railroad is being constructed in a more thorough and substantial manner than any road yet built in New England, and its vast importance to all Northern Massachusetts, cannot be questioned for a moment. We know, too, some of those "from whose hands we have been thus treated." Some who have "made somersets." And at least one who, while at first he nobly and eloquently sustained the interests of this long-neglected portion of our Commonwealth, (his birth-place and early home,) was found *capable*, at the final passage of the bill, of dodging the question.—*Fitchburg Sentinel.*

Accidents on Railways.

The return moved for by Mr. Edward Buller, of the number and nature of accidents and injuries to life and limb which have occurred during the six months ending on the 31st of December, 1846, now printed, exhibits the following results:—

Forty lines makes a return of an aggregate of 144 accidents, involving loss of life to 81, and injuries to 154.

The line on which the larger number of accidents have occurred, are the—

	Killed.	Wounded.
Eastern Counties', -	4	34
Manchester and Leeds, -	10	14
Midland Counties - -	8	3
North-Western (London and Liverpool,) - -	10	14
London and Brighton, and South-Western, - -	4	29
Edinburgh and Glasgow, -	2	4
Great Western, - -	3	0
North Union, - - -	5	11
Stockton and Darlington,	4	4
Bristol and Birmingham,	2	4
Manchester and Lincolnshire,	3	2

As regards the class of accidents in which passengers are most interested, viz., collisions—the return shows 16 such cases, causing injuries to 70 persons and death to three. The return, which specifies the nature of each particular accident, likewise shows that the majority of the entire cases arise from the carelessness of the sufferers themselves; and of this class 40, mostly fatal, are from the single cause of crossing or walking on the lines in front of an advancing engine.

Connecticut and Passumpsic Rivers Road.

The first forty miles of this Railroad, from its lower terminus at the mouth of White River to the village of Wells River, Vt., is now under contract. The contracts for grading and masonry have been taken by sections, at prices within the engineer's estimates, by several companies, most of whom are favorably known as experienced and efficient contrators. They are Messrs. O'Keefe & Boyle, Ten Brook & Brintnal, E. Gilmore & Co., Shaler & Sammons, G. H. Wood & Co., Davis & Fisher, Shaler & Gray. We understand that the work is to be prosecuted so as to be ready for the rails June, 1848, with a view to the completion of the road to Wells River, in the fall of the same year.

From an examination of a map and profile of this road we are agreeably surprised to notice the directness of the line, and the remarkably low grades. On the forty miles contracted for, the maximum grade is about 26 4-10 feet the mile. Although this is essentially a continuation of the Northern Railroad, and forms the avenue from the upper valley of the Connecticut and northern Vermont to Boston, yet connecting as it does at the mouth of White River, with the Vermont Central Railroad and the lines of railroad down Connecticut river, it will receive a great amount of business and travel from the valley of the river below, and from the western part of Vermont.

The *local* business along the line of this road can hardly be overrated. Those acquainted with the country north of the mouth of White River, through the valley of the Connecticut and Passumpsic rivers, to Canada line, can state, without contradiction, that as regards the productiveness of the soil, the abundance of water-power, and the thrift and the enterprise of the population, it is not exceeded by any part of New England.

A line of villages, averaging some three or four miles apart, lie upon the immediate banks of the river, and some of them are quite important. Among others, are those of Dartmouth College, (Hanover) Norwich, Vt., nearly opposite; Lyme, Orford, Haverhil; and Bath, in New Hampshire, and Bradford, Newbury and Wells River, in Vermont.

The business of the towns lying back from the river, on either side, for a considerable distance, must fall naturally into this valley, while at Wells River it opens to a more widely extended district, the business of which cannot fail to make this road immediately productive, as soon as it is opened to that point. Its extension thence to St. Johnsbury, in the centre of Caledonia county, may be looked upon as certain at an early day, and its ultimate completion to the Canada line, where it will connect with the Canadian road to Montreal, is looked for at no distant day. We commend the plain, unostentatious, yet well-arranged and business-like proceedings of the Directors in bringing this road into its present position, and have no doubt that it will be a successful and safe operation for the stockholders, and an important acquisition to the business of Boston. Its friends in this vicinity may promise to themselves, within two years, a trip over this road to the Mineral Springs and the great Ox-Bow, in Newbury, Vt., and an excursion thence to the White Hills, which are about twenty miles from the village of Wells River.—*Boston Courier.*

ITEMS.

Railroad Convention.—A Railroad Convention was held at Indianapolis on the 12th instant, in relation to the junction, by railroad, of St. Louis and Cincinnati. The Cincinnati Chronicle says—

We learn that at the Convention it was ascertained that the Indiana line is all chartered and the companies formed from Terre Haute to Richmond. Books will be opened on this line, and great interest is felt in the matter.

In Illinois, it is true, that the charter granting the right of way, failed, at the last Legislature, by *one* vote only. The Delegates from Illinois assure the friends of the road, that there is no longer any difficulty on that score. The particular opposition which occasioned it is withdrawn, and the charter will easily pass the next Legislature. Parts of the road in Illinois are already done, and with the capital of St. Louis, the aid of the counties, and other means which may be obtained, we doubt not its completion. What Cincinnati has to do, is, to have the road made through Hamilton to Richmond. It is only fifty miles—will cost half a million of dollars, and can be made with perfect ease by Cincinnati, the county of Butler, and the county of Wayne (Indiana.) The Convention resolved, that Books of Subscription should be opened for the Line, through Richmond and Hamilton, to Cincinnati. They also resolved, that Cincinnati should be looked to as the point of connection in Ohio, and that every effort should be used to arouse feeling and secure capital—to make the road to Cincinnati, and thence to the Atlantic.

Walpole Railroad.—The Directors of the Walpole Railroad Co. have concluded a contract with Messrs. E. Gilmore & Co., for the grading, masonry, etc., of the entire line of their road from Denham to Walpole. Arrangements are already made for commencing the work on the three upper sections.

The Albany and Boston Railroad is doing an unprecedented business in freighting just now. The great demand for flour for the Boston market, caused large purchases in Albany, and since Saturday morning week, from 20,000 to 25,000 barrels have been sent over the Western road to Boston. And this is the work of but six days.

Covington and Lexington Railroad.—A friend who feels a deep interest in this important project, informs us that the apathy manifested towards it by the citizens of Covington, grows out of "*dissatisfaction* with the charter. He says that it was determined by common consent not to subscribe stock until some of the obnoxious features of the law should be removed, or a new charter granted. He thinks, and he speaks from an intimate knowledge of the feelings and ability of the citizens of Covington,—that with a liberal and satisfactory charter, $150,000 of the $250,000 required to effect an organization of the company, would be taken in Covington and vicinity at once. The cost of the entire road is estimated at one million of dollars. He says our friends over the river fully understand their interests, are feelingly awake to them, and will be ready to move actively and effectively in this matter the moment that suitable legislative action shall have been had.

The only regret, then, is, that operations are delayed eight or ten months. Much better this, however, than that a commencement should be made under auspices any other than the most favorable.—*Cin. Gaz.*

Illinois and Michigan Canal.—The Trustees, at their recent meeting on the line of the Canal, procured the relinquishment by the contractors of such portions of the heavy work as could not under the present arrangement, be finished by November next, and will prosecute the construction of those portions by laborers in their own immediate employ. Six hundred laborers are wanted, to whom one dollar per day will be paid, and about one hundred stone masons at $2 50 per day.

☞ The Electro-Magnetic Telegraph now in course of construction between Fredericksburg and New Orleans will pass along the line of the South Carolina Railroad. The Charleston Mercury says—

It is decided that the section of the line from Columbia to Charleston, thence to Augusta, shall be first completed and put into operation. Wire for upwards of one hundred miles of the route is already prepared, and may be expected soon to arrive.

Portland and Kennebec Railroad.—We learn from the Kennebec papers that contracts for grading the Kennebec and Portland road from Portland to Bowdoinham have been given to three companies of individuals, to wit: The road from Bath to Brunswick, with the depot at Bath, to Colby & Co., of Brunswick; the road from North Yarmouth to Brunswick, to O'Neal & Co., of Massachusetts; and the road from Brunswick to Bowdoinham, including the depot at Brunswick, to Edgeton & Marsh of Maryland. These lettings have been made upon terms more favorable than had been anticipated. The number of competitors for the work was large.

The surveys of the remainder of the road to Augusta are nearly completed, and it will soon be advertised for contract. The surveyors are now at work between Gardiner and Hallowell.

BOUND VOLUMES.

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NOTICE TO CONTRACTORS.—ANDROSCOGGIN AND KENNEBEC RAILROAD. Proposals will be received at the Railroad Office, in Lewiston, until the 17th of June next, for the Grading and Masonry of the 1st Division of the Road, extending from the Atlantic and St. Lawrence Road in Danville, to Green centre, 14¼ miles.

Also, separately, for the Masonry and Woodwork of the Bridges across the Great and Little Androscoggin Rivers, the Bridges to be constructed on Towne's plan.

Plans and Profiles will be ready for examination, and the route shown, on and after the 10th of June.

Satisfactory surities will be required of bidders unknown to the officers of the company.

The 2d Division, extending to Snow's Pond in Belgrade, 25 miles, will be ready for contract about the 25th of July; and the remainder of the road to Waterville, about the 20th of September.

HOBART CLARK, Agent A. & K. R. R.
EDWARD APPLETON, Engineer.
Railroad Office, Lewiston, May 8, 1847. 4t21

CHAMPLAIN & CONNECTICUT RIVER RAILROAD—Notice to Contractors.—Proposals will be received until the 1st day of June, 1847, for the *Grading*, *Masonry* and *Bridging* of that part of the Champlain and Connecticut River Railroad, extending from the west side of the summit at Mt. Holly to the Village of Brandon, a distance of about 34 miles, and being the whole uncontracted portion of said road.

Maps, Profiles and Specifications may be found after the 20th of May next at the Office of the Engineer in Rutland, where every necessary information will be given.

The line will be divided in sections of convenient length for construction, and from those to whom the work may be awarded, satisfactory security will be required.

Proposals may be left with the undersigned, at Burlington—with George T. Hodges, Esq., at Rutland—or with William Henry, Esq., at Bellows Falls.

The work will be awarded at Rutland, as soon after the 1st of June, as the necessary examination of the bids can be made. By order of the Board,

T. FOLLETT, President.
Office of the C. & C. R. R. R. Co., }
Burlington, Vt., April 29, 1847. } 3t20

THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO., *Agents.*
ly48 77 Pine St., New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-en barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

A. & G. RALSTON & CO., NO. 4 South Front St., Philadelphia, Pa.

Have now on hand, for sale, Railroad Iron, viz: 180 tons 2½ x ½ inch Flat Punched Rails, 20 ft. long.
25 " 2½ x ½ " Flange Iron Rails.
75 " 1 x ½ " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures. 1tf

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
4tf Philadelphia, Pa.

RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now making Railroad Bars, and are prepared to execute orders for any required pattern. Apply to

FULLER & BROWN, Agents.
No. 139 Greenwich, corner of Cedar street.
June 1, 1847. 10t39.

RAILWAY IRON.—DAVIS, BROOKS & Co., No. 68 Broad Street, have now in port on Ship-board, 200 Tons of the best English heavy H Rails, 60 lbs. to the lineal yard, which they offer for sale on favorable terms, *also*, about 6 to 700 Tons now on the way, to arrive shortly, of the same description of Rail. 46tf

TO CONTRACTORS.—KENNEBEC AND PORTLAND RAILROAD.—Proposals will be received at this office until the 15th of May, for the *Grading and Masonry* of 28 miles of this road, extending from North Yarmouth to Bowdoinham, and the Branch Road from Brunswick to Bath, including the masonry for the Bridges across the Androscoggin, New Meadows and Cathance rivers. The line of road and the plans and profiles will be ready for examination on the 10th of May; after which time any information in relation to the work can be had at this office, or of the Resident Engineers on the line of the road.

Persons unknown to the officers of the company, must accompany their bids with satisfactory evidence of their ability to execute the work.

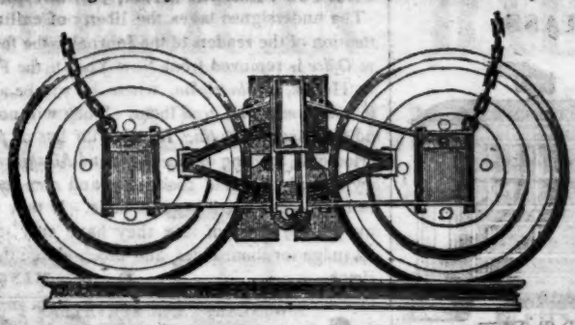
The remainder of the line from Bowdoinham to Augusta, 21 miles, will be ready for contract about the 15th of June; of which due notice will be given.

GEO. S. GREENE, Eng. K. & P. R. R.
ENGINEERS OFFICE, K. & P. R. R. }
Brunswick, Me., April 6, 1847. } 1m16

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIber having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use.

[Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.— for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4½	13	5	10	24	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2½	5	2	6½	9	4	13½	1-2	7½
16	2¼	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

THE SUBSCRIBERS, AGENTS FOR the sale of Codorus, Glendon, Spring Mill and Valley, } Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] *Philadelphia, Pa.*

RAILWAY IRON.—THE BEST QUALITY of English Heavy H Rails—60 lbs. to the yard—now in store, landing from the vessel, and on ship board to arrive, for sale on most favorable terms by

DAVIS, BROOKS & CO.,
Jan. 2. [1tf] 68 Broad St., New York.

RAILROAD SCALES.—THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee

G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

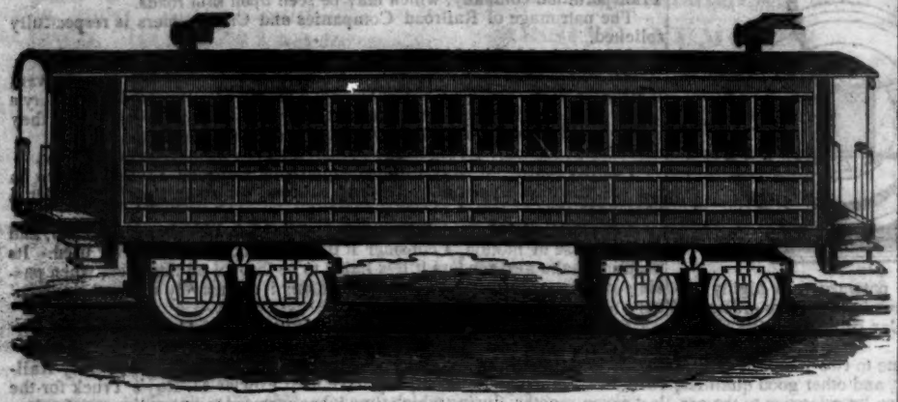
THOMAS & EDMUND GEORGE,
ja45 N. E. cor. 12th and Market sts., Philad., Pa.

RAILROAD IRON.—THE SUBSCRIBER'S New Rail Iron Mill at Phœnixville, Pa., is expected to be ready to go into operation by the 1st of September, and will be capable of turning out 30 to 40 tons or finished Rails per day. They are now prepared to receive orders to that extent, deliverable after the 1st of Octobet next, for heavy rails of any pattern now in use, equal in quality and finish to best imported.

PIG IRON.—They are also receiving weekly 150 to 200 tons of No. 1 Phœnix Foundry Iron, well adapted for light castings.

REEVES, BUCK & CO.,
45 North Water St., Philadelphia,
or by their Agent, ROBT. NICHOLS,
28tf 79 Water St., New York.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.

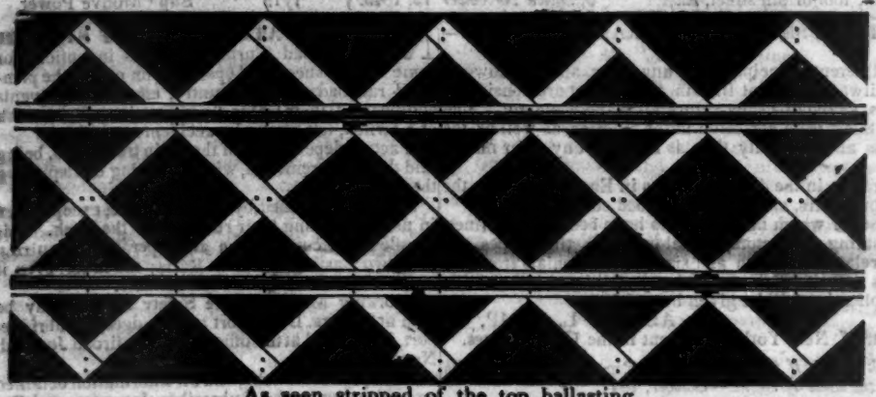


Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.

4,224 Timbers, 11 ft. long, 3 x 6 inches = 68,696 ft. b.m., at $10 =	$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. = 4,403 ft. b.m., at $13 =	57 24
13,000 Spikes = 2,250 lbs. at 4½ cts	101 25
Workmanship free of patent charge	600 00
Cost of one mile including the laying of the Rail	$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

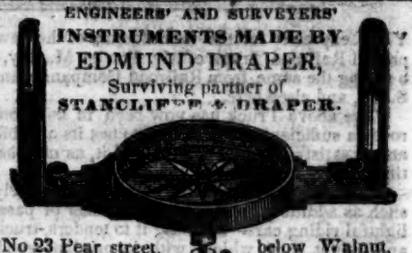
Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 South Tenth St., Philadelphia. 33tf

FRANKLIN HOUSE,
No. 105 Chestnut Street, Philadelphia.

The undersigned takes the liberty of calling the attention of the readers of the Journal to the fact that the *Office* is removed from New York to the FRANKLIN HOUSE, *Philadelphia*, where he will be always pleased to *meet* and *greet* them. They will not only find a pleasant *Reading Room*, with lots of *foreign* periodicals, treating of *Railroads* and *Machinery*, but they will always find *good-sized* and *airy* rooms—*clean beds*—and a *well supplied* table. If they would have further proof of this, they have only to call, and judge for themselves, and much oblige the proprietor, D. K. MINOR.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
1y25 28 Platt street, New York.

RAILROAD IRON.
MOUNT SAVAGE IRON WORKS

THIS Company are prepared to execute orders for RAILROAD IRON, of any pattern, and equal in point of quality to any other manufactured.

Address J. M. HOWE,
Pres't. Mt. Savage Iron Works,
Dec. 25, 1y* Maryland.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.